8th Annual *Thanksgiving* ROBOParade

The 8th annual indoor Robot Parade organized by Lawrence Technological University (LTU) Robofest will be held at Macomb Community College. The parade features robot floats constructed and programmed by student participants. Attendees will be able to see fully autonomous robot floats that follow the parade route while detecting other robots in front of them. The robot floats are programmed to stop and start without human help. It is a great STEM (Science, Technology, Engineering, and Math) as well as Arts learning opportunity for young students. Videos of the previous parades can be found on the RoboParade home page at www.robofest.net/roboParade.htm. Qualified teams will win individual medals or small trophies. Spectators will have a chance to win raffle prizes.

Team Registration and Qualification

- A team can enter only one robot float. If a coach has multiple robotic floats, please register multiple teams.
- Team registration is open online at www.robofest.net . There is a maximum of 40 robot floats in this parade site. There will be free technical workshops or webinars for registered teams.
- A team can have up to 7 team members.
- Students in grades 4-12 may participate.
- The registration fee per team is $30.
- Each team must come to a **Test Parade** using the actual parade route to ensure that all robot vehicles meet the specifications and functional requirements. Test parade dates/times at Macomb Community College are:
  - **Friday, November 22, 5:00 pm – 8:00 pm**
  - **Saturday, November 23, 9 am – 11:30 am** (for this slot, teams must make an appointment)
- If the team's robot passes the test, then the float ID (flag) will be given. Without the flag, robots cannot participate in the official parade. Team members will win an individual medal or trophy, if the team passes the test. The test may include written part to test the knowledge of speed calculation.

Robot Requirements

- Robot type: any, as long as it is fully autonomous.
- Number of robot controllers, sensors, or motors: unlimited.
- Each robot may have its own sponsor logos. Each robot is required to carry a small flag with a number, which will be given if the robot passes the test.
- There is no limitation on height or weight.
- Width: should be less than 35cm

- The rear part of your float must have a flat bumper at least **2.5** inches tall and 5 inches wide and be **1** inch off the ground so that the robot behind is able to sense your robot using its sensors.
- Length: if longer than 35cm, it must have train-like flexible bending structures at curves.
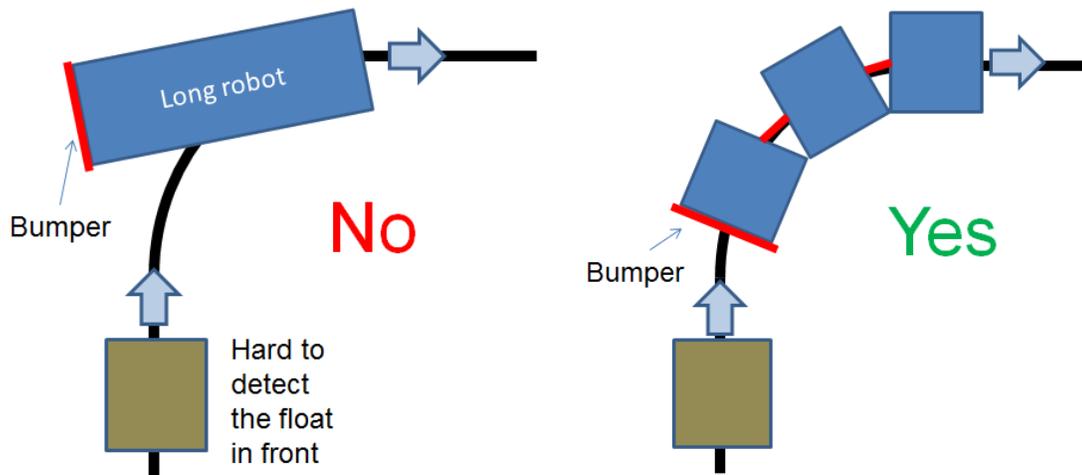
- Program requirements:
  1. Robot must have a reliable program to follow a black line on a bright surface.
  2. Robot must have the ability to detect a vehicle in front of it and stop; then automatically re-start when the vehicle in front has cleared.
  3. Wireless interaction between the robot and team players using sound, ultrasonic, or light sensors is encouraged.
  4. Robot speed must be between 7 cm/sec and 17 cm/sec. The robot must display the current speed. Recommended the display interval is 2 seconds.

Official Parade Route

Teams may purchase plastic folding tables (30" x 72") to construct a practice parade route. Suggested tables can be found on the web at: http://www.buylifetime.com/Products/BLT/PID-22901.aspx . Tables can be placed on the floor on crates without legs. Alternatively, you may create a practice route by covering any table with white paper or white vinyl table cover. Standard electrical tape (black) can be used to make a closed rectangular shape with 4 rounded corners as shown in the picture below. 2" wide masking tape can be used to connect and hold tables. We may use the following dimension and shape for the official parade.

Last updated on 8-20-13